

Report for: ACTION



Contains Confidential or Exempt Information	PART 1 – Main report PART 2 – Appendix 2 & 3 (category 3)
Title	Energy Reduction Manager Update
Responsible Officer(s)	Craig Miller, Head of Community Protection & Enforcement Services
Contact officer, job title and phone number	Michael Potter, Energy Reduction Manager Tel: 01628 68 2949
Member reporting	Cllr Coppinger, Lead Member for Sustainability
For Consideration By	Sustainability Panel
Date to be Considered	3rd October 2016
Implementation Date if Not Called In	Immediately
Affected Wards	All

REPORT SUMMARY

1. This report provides an overview of the progress being made to deliver the Council's energy reduction strategy.
2. This update report recommends that Members note progress on the Council's energy reduction performance 2016/17, RBWM Energy Switch to Save, Schools energy saving competition, Town Hall BMS project, Maidenhead District Energy Network report and comment on the proposed work plan until the next Sustainability Panel. It also recommends a trial of low flush toilets in the Town Hall.
3. Recommendations are being made because it is important that Members provide comment and direction on the work being carried out and that the sustainability strategy targets are met.

If recommendations are adopted, how will residents benefit?

Benefits to residents and reasons why they will benefit	Dates by which residents can expect to notice a difference
1. By reducing utility and waste costs, the Borough is providing better value for money to its residents.	March 2017

1. DETAILS OF RECOMMENDATIONS

RECOMMENDATION: the panel are asked to note the progress made and comment on the proposed work plan over the next period as detailed in paragraph 17.24.

RECOMMENDATION: the panel are asked to approve a trial of low flush toilets in the public toilets of the Town Hall subject to procurement rules and final pre-installation checks at a cost of up to £15k using the CY03 capital code.

2. REASON FOR RECOMMENDATION(S) AND OPTIONS CONSIDERED

2.1 The Council is currently working towards a four year Sustainability Strategy running from April 2014 to March 2018. The strategy focuses on 6 workstreams including: Sustainability, Energy, Water, Waste, Transport and Renewable Generation. The strategy has three key targets over the four year period which are:

1. Reduce energy use in the Council building estate by 15% in 2017/18 compared to a 2013/2014 baseline.
2. Reduce water usage in the Council's corporate office buildings by 3% in 2017/18 compared to a 2013/2014 baseline.
3. Recycling rates increased to 55% in 2017/18.

Each year an action plan is drawn up to enable the Council to meet these targets as well as other goals presented in the strategy documents. This update provides a progress report for the energy workstream.

After the first two years of the strategy the 2013/2014 energy baseline has been reduced by 12.5%. This equates to the Council avoiding just under £130,000 of energy costs over these two years.

Option	Comments
(a) The Council does not work towards the sustainability strategy. This is not recommended	(a) Failing to work towards the sustainability strategy would mean the Council would not be able to meet its legislative commitments, would not be able to continually drive down energy costs and therefore would not be offering value for money for its residents.
(b) The Council works according to the current and any future sustainability strategy. This is the recommended option	(b) The Council will be able to meet all its legal requirements whilst improving the local environment and providing value for money for its residents.
(c) Members of the panel are	(c) This work will enable the Council

Option	Comments
asked to approve a trial of low flush toilets in the Town Hall public toilets. This is the recommended option	to meet some of its water reduction target and will help to instruct possible future projects.

3. KEY IMPLICATIONS

Defined Outcomes	Unmet	Met	Exceeded	Significantly Exceeded	Date they should be delivered by
Overall reduction of annual gas and electricity consumption in Council buildings in 2016/17 compared to the 2013/14 baseline.	<11%	11-12%	12.1-13%	>13%	31 st March 2017

4. FINANCIAL DETAILS

Financial impact on the budget

- 4.1 A trial of a low flush toilet system would cost up to £15k and use capital funding from the capital code CY03.

5. LEGAL IMPLICATIONS

- 5.1 Should the panel choose to approve the recommendation of a trial of low flush toilets then the supplier will be procured according to contract rules.

6. VALUE FOR MONEY

- 6.1 The work to reduce the Council's energy and water usage will provide residents with better value for money if the Council continues to reduce energy and water usage as projected.

7. SUSTAINABILITY IMPACT APPRAISAL

- 7.1 All the work referred to in this update relate to improving the sustainability of the Council.

8. RISK MANAGEMENT

Risks	Uncontrolled Risk	Controls	Controlled Risk
Targets for overall energy and water reduction are not met.	High	By providing updates at each panel meeting, Members are able to keep track of overall progress to ensure the Council meets its annual projected reductions and savings commitments.	Low
Increasing energy and water costs for the council puts additional pressures on budgets.	High	By providing updates at Panel meetings on progress to reduce energy and water usage and progress on securing the best available energy contracts, Members will be able to assess the work that is taking place to ensure that cost increases are minimised as far as possible.	Low

9. LINKS TO STRATEGIC OBJECTIVES

9.1 The Energy Manager's Update meets the following strategic priorities of the Council:

Residents First

- Improve the Environment, Economy and Transport
- Work for safer and stronger communities

Value for Money

- Deliver Economic Services
- Improve the use of technology
- Invest in the future

Delivering Together

- Enhanced Customer Services
- Deliver Effective Services
- Strengthen Partnerships

Equipping Ourselves for the Future

- Equipping Our Workforce
- Developing Our systems and Structures
- Changing Our Culture

10. EQUALITIES, HUMAN RIGHTS AND COMMUNITY COHESION

- 10.1 There are no direct equalities, human rights or community cohesion implications arising from this report.

11. STAFFING/WORKFORCE AND ACCOMMODATION IMPLICATIONS

- 11.1 There are no direct staffing/accommodation implications arising from this report.

12. PROPERTY AND ASSETS

- 12.1 This update contains content relating to the improvement of the Council's buildings and the information collated about them.

13. ANY OTHER IMPLICATIONS

- 13.1 There are no other implications.

14. CONSULTATION

- 14.1 No formal consultation has been carried out.

15. TIMETABLE FOR IMPLEMENTATION

Date	Details
31/03/2017	Completion of current annual plan.

16. APPENDICES

- 16.1 Appendix 1 – Comparison of energy consumption (kWh) in 2016/17 to the 2013/14 baseline year.

Appendix 2 – Maidenhead district energy network initial assessment.

Appendix 3 - Financial case for Propelair low flush toilets.

17. BACKGROUND INFORMATION

Energy reduction performance 2016/17

- 17.1 The energy reduction for the Council's corporate buildings was a 23% reduction overall between April-July compared to the corporate building baseline. The monthly figures can be found in appendix 1. This reduction has seen an avoided cost for the Council of £62,000 so far this year. Overall since the beginning of the current strategy in April 2014 the Council has avoided energy costs of £191,000.

RBWM Energy Switch to Save

17.2 The Council is implementing its manifesto commitment to implement an energy switching campaign in the borough. The energy switching campaign seeks to reduce the energy bills of the borough's residents. It helps residents to reduce money on their bills by pooling all residents together in a reverse auction. The energy suppliers actively bid in the auction for the business of the registered borough's residents. The lowest price achieved in the auction is then offered to the residents taking part.

17.3 The Council's Energy Switch to Save scheme has been live on the Council's website since 12th September. Since that date the Council has communicated the scheme to residents online using the Council's website, emails, facebook and twitter. Information about the scheme has also gone out in various newsletters and the local press.

Schools energy saving competition

17.4 The schools energy saving competition has now been drawn up for delivery. The competition will ask schools to compete to save energy over a 2 week period to win a prize. The competition will be open to all schools but it is envisioned that primary schools will be taking part.

17.5 All participating schools will be required to take weekly electricity readings covering a 4 week period (5 readings in total) and send them in via the Council's Systemslink web reporting system. There will be a 2 week baseline period where the schools carry on as normal and then there will be a 2 week action period where schools should try to do everything they can to save electricity whilst the school runs otherwise as normal. A checklist will be provided which the staff/pupils can refer to for ways to save energy.

17.6 Once all the readings are in, average consumption patterns before and after the action period will be calculated and a percentage savings figure derived. All the schools will then be ranked and the winning school with the highest percentage saving will win a prize. It is also envisioned that every school that takes part will receive a smaller prize. All prizes are subject to funding being allocated. It is proposed that any income derived from the energy switching campaign is used for this purpose.

17.7 The Head of Schools and Education Services suggested two forms of prizes that the schools would be interested in; these were positive PR for the school and educational resources. PR could be free but the educational resources are likely to be charged for.

17.8 Since schools will need to be informed about the competition and sign up for it, it is proposed that the competition runs in the second half of the autumn term.

Town Hall BMS project

17.9 Following the investigations carried out by MITIE it has been decided that the Town Hall building management system (BMS) upgrade will need to be separately tendered. This is because MITIE have made adjustments to their savings figures which mean overall they have a credit of savings after the first year.

17.10 The project will be tendered in as soon as possible and is due to be complete by the end of the year. The project will be tendered and delivered by Shared Building Services. The works being tendered have been adjusted to split out the works to three areas: the basic upgrade of the control system, the introduction of air conditioning control to the BMS control system and the introduction of fan coil control to the BMS system.

Maidenhead District Energy Network

17.11 On the 14th March the Sustainability Panel commissioned a high level assessment looking at the possibility of installing a District Energy Network in Maidenhead. The study is now complete and a final report has been issued (see appendix 2).

17.12 The report has the following sections:

- Initial appraisal of opportunity sites
- Modelling of energy loads and mapping
- Stage 1 cost modelling
- Options for investment and delivery
- Taking the project forward
- Conclusions

The report provides a high level analysis of the possibility for a district energy network in Maidenhead. It calculates the current levels of energy consumption from some of the existing key buildings in Maidenhead and maps their position. It then projects future energy consumptions for Maidenhead based on the potential future development work happening in Maidenhead, again also looking at the locations of these new sites. This high level analysis highlights the energy loading through time so that a demand profile can be built up to inform the current energy centre requirements and future phasing potential.

17.13 The report provides an indicative cost of almost £10m for the 1st phase of the scheme which looks to install the energy centre and associated pipework to existing buildings in the town centre. This would lead the way for future phases which could provide energy to the redevelopment sites when they are completed. Unfortunately a full financial model could not be developed under this study as it requires much more detailed work looking at all the overheads and income streams.

17.14 The report goes on to conclude that from the information used in the study a district energy network should be viable in Maidenhead and should be investigated further. Grant funding is available to assist with more detailed investigative work and it is available from the Heat Networks Delivery Unit (Department for Business, Energy and Industrial strategy). The next funding round opens in the autumn; however, full Council buy-in to the scheme will be required before an application can be made.

17.15 The report has been sent to the regeneration team for comment for a first round of consultation.

Water Saving Toilet trial

- 17.16 The public toilets in the Town Hall were monitored for two weeks using flush monitoring devices. The results of the monitoring period were that on average each toilet is flushed 40 times with women's toilets being flushed two and a half times more than men's toilets. It was also found that on average each toilet is flushing 6.53L per flush. Assuming consistent usage over a year during the working week (and removing bank holidays) the ten public toilets monitored will use 640m³ of water. This costs £1344 per annum in water charges.
- 17.17 The Propelair toilets being considered only use 1.5L of water per flush since as well as using water to flush the toilet they also use a compressed air flush. Using the figures from the monitoring above this means the ten toilets would use 147m³ of water per annum using Propelair toilets and this would cost £309 per annum in water charges. This would offer an annual saving of £1035 for the ten toilets.
- 17.18 The water saving is offset by the cost of the toilets and their installation. The business case provided by Propelair can be found in appendix 3. Their business case shows an 8.6 year payback. It is proposed that a trial is conducted by replacing the public toilets in the Town Hall next to the café with a low flush alternative and the Propelair toilets could be used in this trial subject to procurement and contractual arrangements. The trial would be looking primarily to test how well the toilet product functions over a given period of time and how user friendly they are.
- 17.19 The other options on the market that can reduce the amount of water being flushed by a toilet are: dual flush/ low flush replacement flush mechanisms, macerating toilets, pressure assisted toilets, vacuum toilets and compressed air toilets. Macerating, vacuum and compressed air toilets are not suitable for the plumbing system in the town hall.
- 17.20 Low flush and dual flush mechanisms can be retrofitted to reduce the amount of water being used per flush – this can be as low as 4L full flush and 2L for part flush. Whilst replacing the flushing mechanism does reduce the amount of water being used, reducing the flush volume to these levels can cause blockages under normal pressure. Although a cheaper option in the long run, this option may cause problems with the drainage system depending on how well the current drain network can cope in the Town Hall. It is therefore not recommended.
- 17.21 Pressure assisted toilets compress the air inside the cistern when it refills. This means that when the toilet is flushed it flushes a reduced amount of water under pressure. Due to the pressure of the water being flushed this alleviates any blockage issues and means that the amount of water being flushed is reduced. Unfortunately the compressed cisterns have exploded in the past and so for safety reasons this product is not recommended.
- 17.22 Any trial would be procured according to contract rules. Installations will be subject to final pre-installation checks prior to the install.

Work planned over the next period until the next Sustainability Panel

17.23 The work for the next period includes:

- Completing the energy switching campaign.
- Setting up a low flush toilet trial in the Town Hall public toilets.
- Tendering the Town Hall BMS project.
- Gaining support for the Schools Energy Saving Competition in schools.
- Finalising plans for the LED upgrade programme phase 2.

18. CONSULTATION (MANDATORY)

Name of consultee	Post held and Department	Date sent	Date received	See comments in paragraph:
Internal				
Lisa Pigeon	Environmental Health Lead, Operations	31/08/2016	13/09/2016	Throughout
External				

REPORT HISTORY

Decision type:	Urgency item?
Non-key decision	No

Full name of report author	Job title	Full contact no:
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